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Supreme Court of the United States

OCTOBER TERM, 1927.

No. 285.

HOLLAND FURNITURE COMPANY,
Petitioner,

vs.

PERKINS GLUE COMPANY.

PETITIONER'S ANSWER TO RESPONDENT'S REPLY BRIEF.

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March 23, 1928.

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We regret that it is at all necessary for us to file an answer to plaintiff's reply brief and particularly regret that it is necessary to make our answer so extended. We feel, however, that it is necessary because with the record as long and complicated as is the record in this case, it is possible that what we believe to be misinterpretations and misquotations of the record and our briefs might go undetected by the Court.

I.

Plaintiff's reply brief continues to becloud the issue by using the word "process" with a double meaning.

The simple issue of the case is whether the patent is infringed by glue made from starch not having reduced water-absorptiveness within the range described in the patent.

It is impossible to read the patent without seeing that the discovery Perkins made and patented depends upon the choice of a particular and peculiar starch as an ingredient of the glue. Whether that choice is described as a "process" step or as a "product" step does not matter, so long as the real meaning—a choice of ingredients—is clearly understood.

But the point we failed to make clear to the Court below —and that we insist upon making clear in this Court—is that so far as "process" and "product" are involved in the issues presented here, they are both merely statements of a choice of ingredients, and so are as much alike as two sides of a sheet of paper or a shadow and the body that produces it.

The tendency of plaintiff's use of the word "process" with a double meaning is to make it seem that the thing here to be decided is whether the product claims of the patent are limited in their scope to a product made from starch degenerated by a *particular chemical process*. If that were the question here to be decided, this Court, after passing on the question whether there is any patentable invention in the subject-matter claimed, would have to pass on the question whether the *selection* of a starch *within* a particular range of water-absorptiveness is the equivalent of the *creation* of a starch *within* that range, so far as the claimed product is concerned. But there is here involved no such question of equivalents.

It is undisputed that defendant has *not* selected a starch having water-absorptiveness *within* the range measured by the tests of the patent and the only real question is whether the patent shall be given a scope broader than the range measured by the tests defined in the patent—a range of which the only measure is the ultimate utility of the final product (see our Main Brief, p. 7, and our Reply Brief, pp. 73 and 75).

If we accept the whole of plaintiff's argument as to the value of the Perkins veneering glue (and its asserted corollary that the patent on that glue is valid, notwithstanding the prior knowledge of glues so made from starch dissolved in an alkaline solution and even the prior knowledge of glues so made from the particular low water-absorptive starch chosen by Perkins*), still the fact remains that the selection of a particular starch from among starches in general was an essential part of the thing Perkins discovered and patented. And if we accept plaintiff's proposition that Perkins' glue could be produced either by the *creation* or by the *choice* of a starch glue-base having the particular range of water-absorptiveness, and so was independent of the particular chemical process of degenerating the starch base, still the fact remains that starch of that range of water-absorptiveness was essential to the thing Perkins discovered and patented; and, since defendant does not use starch within that range of water-absorptiveness, it does not infringe.

That is the position we took in the Court below. Plaintiff's counsel have in their reply brief lifted from page 2 of our brief in the Court below a sentence to show that our position below was that "the product claims are lim-

*Gerard, Dornemann and Poplar Bluff and plaintiff's reply brief, page 6.

ited to process features," contrary to our present position. So long as plaintiff's counsel persist in using the word "process" sometimes to mean the selection of the starch base, and at other times to mean the chemical process of degenerating the starch base, they continue to confuse the issue, as indeed they have done again on page 15 of their Reply Brief (see *post*, p. 6). In our brief below we pointed out that when we spoke of the idea of the patent as "comprehending the two-step process," we did not intend to exclude a first step that was nothing more than the selection of a starch having water-absorptiveness within the defined range. That we expressed in the following words (quoted from p. 6 of our brief):

> "We do not think it limited the patent to any particular *process* of degeneration, but it certainly did limit it to a particular *degree* of degeneration."

It is true that plaintiff there succeeded, by continued use of the word "process" in a double sense, in confusing the Court below, so that the Court below first said, with the erroneous significance derived from plaintiff's discussion of the processes of treatment of the base, that (R., 648):

> "The defense primarily urged is that the specified process or processes must be so far implied in the claim that defendant does not infringe,"

and answered that supposed defense by asserting, with respect to the product claims, that (R., 648):

> "The specific reference is to the constituents which make up the finished product and is without dependence on the method with which they are combined."

We quite agree that the reference of the product claims is to the "constituents" which make up the finished product. One of those constituents is starch having low water-absorptiveness within the defined range. The words in the claim that define this constituent are general words meaning "starch." Inasmuch as not all starches, but only starches within a medium range,* would answer the purpose, the literal words of the claims have to be helped out by interpretation. It is proper to do so by reference to the specification. There we find the "suitable starch" of "medium range" water-absorptiveness defined by tests described in the original specification and elaborated by reissue (Defendant's Brief, p. 22), and we say that was the measure of the thing discovered and of the thing patented, and the only measure having that requisite degree of certainty that the patent law demands. But plaintiff and the Court below say that the necessary "medium range" quality of starch which is admittedly an essential ingredient of the finished product may be defined, not by its own inherent properties, but by the functional utility of the final composition of matter of which it is an ingredient.

This involves no question of the independent patentability of process and product. It involves only the well-established doctrine of the patent law that no valid claim, whether for a composition of matter or for a combination of mechanical elements, can rest for its definition upon functional statements of the ultimate utility of the compound or combination. We do not think there is any need in the case at bar for any generalized discussion of the patent law or of how a product may be defined. It is enough to consider what was the true nature of the prod-

*Judge Denison's opinion, R., 649.

uct here in question and to apply to the facts of the instant case rules of law that have been established and applied in this Court for many years.

II.

This same confusing double meaning of the word "process" as applied to the particular facts of the case at bar becomes again apparent if we subject to the slightest analysis that part of plaintiff's reply brief on pages 15 and 16, headed "The law does not permit defendant to read the so-called 9 to 1 and 170 degree tests into the glue product claims." Plaintiff's argument here is that "the specified degree of degeneration is a characteristic of the process *not of the product.*" Whatever plausibility that argument has is lent to it by the use of the word "degeneration" (which may connote an act or a state) in place of "water-absorptiveness"* (which correctly connotes only a state). The 9 to 1 boil-up test and the 170 degree hot water test of the patent are not tests that disclose the process of degeneration by which the glue-base has been produced. They are tests that disclose the degree of water-absorptiveness of the base itself, however made. That reduced water-absorptiveness of the glue-base is, of course, carried on into the final glue product. It is the reduced water-absorptiveness of the starch in the final glue product that results in the ample fluidity that Perkins desired. As he says in his patent, the lim-

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*In the context of defendant's reply brief, from which plaintiff has here quoted, the words "choosing an ingredient of the specified degree of degeneration," were carefully used in juxtaposition with the words "water absorptiveness [degeneration] within the defined range" (Defendant's Reply Brief, p. 2).

ited quantity of water commonly used with animal glue if applied to a starch of higher water-absorptiveness produces a starch glue jellylike and tough and too heavy for easy application; and so unsuited to his specific purpose. It so results because the highly absorptive starch in the finished glue absorbs too much water. This water-absorptiveness, measured by the 9 to 1 boil-up test or by the 170° hot water test, is a characteristic of this essential ingredient of the finished glue, and determines the fluidity thereof.

Plaintiff's counsel in the first part of this section of their brief say:

> "We know of no rule which permits a patentee when claiming a product independently of the process to characterize one of the ingredients by tests to which it can no longer respond,"

but why not? If the final product is one, as in the case at bar, having properties (fluidity) dependent upon a particular range of water-absorptiveness of the starting material, it is not only permissible, but necessary, that the water-absorptiveness should be defined by tests capable of measuring it. The patentee did so define it. His discovery did not go beyond it; the disclosure of his patent did not go beyond it; and his monopoly cannot go beyond it.

We quite agree with plaintiff's counsel (Plaintiff's Reply Brief, pp. 7-8) that within the description of the Perkins patent there is quite a wide range that permits of "considerable variation in the viscosity of the starch base to be used" (p. 7) and that this permitted variation in the viscosity of the starch base will "result in the production of final glues of different viscosities" (p. 8). That is precisely the point. The viscosity of the final glue of the Perkins patent is, of course, dependent upon the

viscosity of the starch base from which it is made. The viscosity of the final glue and of the base is the reciprocal of the water-absorptiveness. And the range of water-absorptiveness that Perkins found would give him the good as animal glue for veneering at which he aimed was the range measured by these tests of the patent.

Could anything show more clearly than the argument plaintiff's counsel here make (pp. 7-8) that these yardsticks of the patent are not, "examples" but are "tests" contrary to what Judge Denison said (R., 650).

At this particular point of plaintiff's reply brief, it is necessary for them to establish that the final glue of the Perkins patent may have greater or less viscosity over a considerable range. To do that, they refer to the range of water-absorptiveness of the glue-base as defined by the 9 to 1 boil-up and the 170 degree hot water test, and correctly say that this range of water-absorptiveness of the starting material effects a corresponding range of viscosity of the final glue. Is it not clear that glue within that range of viscosity is the glue of the patent; and that glue of higher viscosity produced from starch of higher water-absorptiveness is the glue rejected by Perkins because it was jellylike and tough and too heavy for easy application?*

IV.

The proposition advanced under the heading "Defendants objection that the claims are barred as being for a result is untenable" (p. 7) in the reply brief now under

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***We ought here to insert the caution that plaintiff's argumentative statement of the facts on pages 8 and 9 is, as we read it, and as we fear the Court may read it, a misrepresentation (see post, p. 15).**

consideration discloses the fallacy underlying plaintiff's whole position.

We said with a good deal of confidence in our reply brief (p. 14) that "it is, of course, elementary that a patent cannot be granted for a result"; having reference to the immediately preceding statement that "to give plaintiff a patent, regardless of the degree of degeneration" that Perkins "found to be necessary to the achievement of the result he was aiming at, is to give it a patent, not for the invention Perkins then made—the means of achieving his result,—but for the result itself."*

In reply to that plaintiff says (p. 7) that "practically every product is the *result* of some process, but it is nevertheless still patentable as such"; and they say that we confuse "this well settled rule of law with the rule that the *function of a machine* is not patentable as such."

It is, of course, possible to refer to the product of a process as the "result" of that process and in that sense the product of a process is patentable. But we use the word "result," in the discussion referred to, to mean the *achievement*, as distinguished from the *means of achieving*. And we say that the "medium range" that Judge Denison found to be essential to Perkins' invention must be measured by the limits put upon it in the specification, not "by the functional consideration of ultimate result" (our Reply Brief, p. 15).

Plaintiff's counsel now advance the proposition that in the case of a product—the result of a process—a valid patent may be granted to cover every product that achieves the same purpose. Their argument seems to be that it is only machine patents which must be limited to the means discovered and disclosed. In our reply brief

*See the explicit statement of the rule in Knapp vs. Morss, 150 U. S., 221, 228.

we cited (p. 6) the *Corn Planter Patent* case (23 Wall., 181), to the effect that a patent claim would be void if it covered "a mere result, irrespective of the means by which it is accomplished. But if construed as claiming the accomplishment of the result by substantially the same means described in the specification, it is free from that objection," and we further cited in support of this fundamental rule of patent law, *Electric R. Signal Co.* vs. *Hall*, *Westinghouse* vs. *Boyden*, and *Mitchell* vs. *Tilghman*. Plaintiff's counsel (p. 7) brush these cases aside on the ground that they held merely that "a function of a machine is not patentable,"* as though this rule of law applied only to machine patents and not to process and product patents.

In support of this somewhat extraordinary proposition plaintiffs' counsel cited only *Rubber Co.* vs. *Goodyear* where the word "result" was used to mean the product of a process. It would not have been necessary for plaintiff's counsel to go beyond the litigation in this Court involving Goodyear's hard rubber or vulcanite to find a complete refutation of the idea that it is permissible in a process patent, or in a product patent, to claim the result achieved as distinguished from the means of achieving the result.

This Court in *Smith* vs. *Goodyear Dental Vulcanite* (93 U. S., 486) sustained a patent for making dental plates from vulcanized rubber or other vulcanized material. The product claim was:

> "the plate of hard rubber, or vulcanite, or its equivalent, for holding artificial teeth, or teeth and gums, substantially as described."

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*Mitchell vs. Tilghman certainly did not involve a machine patent.

In *Goodyear* vs. *Davis* (102 U. S., 222) suit was brought on that patent against an alleged infringer who made dental plates from molded celluloid and this Court held that a celluloid dental plate did not infringe notwithstanding the fact that it had the desirable qualities of the patented vulcanite dental plate. The Court said (102 U. S., 224):

> "It is impossible to read the specification of the original patent, or that of the reissue, upon which this suit is founded, without the conviction that the patentee had in mind primarily a single substance for his material, and that one of a peculiar character, itself a compound discovered and patented not long before" (Goodyear's hard rubber or vulcanite),

and on the question of infringement, after pointing out that defendant's dental plate was made of celluloid, the Court said (p. 229):

> "Undoubtedly it can be employed for manufacturing dental plates and as a base for artificial teeth. Such a plate may have the fineness, lightness and elasticity of a plate made of hard rubber by the Cummings' process; but it is a substance very different from hard rubber and it is incapable of the same manipulation,"

and on page 230:

> "It may be conceded the patentee is protected against equivalents for any part of his invention. He would be, whether he had claimed them or not. But when a product arrived at by certain defined

> stages or processes is patented, only those things can be considered equivalents for the elements of the manufacture which perform the same function in substantially the same way. The same result may be reached by different processes, each of them patentable, and one process is not infringed by the use of any number of its stages less than all of them."

Whether expressed as process or product, the invention of the dental plate, like the invention of Perkins' glue, depended upon the choice of starting material. That choice was inextricably involved in the means invented or discovered by the patentee to effect his ultimate result. The patent was valid to cover that means, but when it was sought to extend it to cover the ultimate result, this Court called a halt.

So, in the *Packing Co. case*, 105 U. S., 566, cited in our main brief (p. 58) and in our reply brief (p. 48), the process and product claims as finally limited by disclaimer were limited to the choice of boiled meat as starting material, and the Court, after holding that there was nothing of invention in the process wherein the meat was subjected to a boiling operation instead of to a broiling, roasting or steaming operation, added (105 U. S., p. 574):

> "Our conclusion is, therefore, that there is nothing new in the process described in the patent. * * * If that claim cannot stand, it follows that the second claim which is for the product made by the employment of the process described in the first claim, is also invalid."

And in *Western Electric Co.* vs. *Ansonia*, 114 U. S., 447, likewise cited in our main brief at page 58 and in our reply brief at page 48, there were process and product patents. The claim of the process patent was:

> "The method of insulating telegraph wire by first filling the pores of the covering and subsequently compressing them, covering and thereafter polishing its surface, substantially as described."

The claim of the product patent was:

> "An insulated telegraph wire, the covering of which has its pores filled and its surface polished, substantially as described,"

and this Court said (114 U. S., at p. 449):

> "It is clear that the two patents must stand or fall together. If the patent for the process is invalid so must be the patent for the product."

And see *Plummer* vs. *Sargent*, 120 U. S., 442, where the invention depended upon the choice of a thin film of oil as the first step in an invention which was claimed both as product and process, and this Court held that the product claim was limited to a product produced by the use of such a thin film of oil in the process; refusing to uphold a charge of infringement based wholly on comparison of defendant's product with the final product of the patent.

This fundamental error runs through everything plaintiff's counsel say (pp. 17-19) to the effect that when a product claim does not give proportions (and we assume that they also mean when it does not definitely state qualities), it will be interpreted by reference to the specification to include suitable proportions (or qualities). That is, of course, true if the suitable proportions (or qualities) are clearly stated in the specification. But in looking for such a clear statement of suitable proportions (or

They then proceed, argumentatively, to establish their asserted proposition that "defendant's glue is not a heavier glue than that of the patent." That could be done, either (1) by showing that defendant's glue has the viscosity of a glue made from starch which registers 48 on the 9 to 1 boil-up test (which is, as they say [pp. 7-8], the high limit of the Perkins range), or (2) by showing that the water-absorptiveness of defendant's glue-base on the 9 to 1 boil-up test does not register more than 48 seconds.

But all the evidence is that defendant's final product—the glue—is more viscous than the glue of the patent; and is so because defendant's glue-base has water-absorptiveness higher than the upper limit of the Perkins range (post, p. 27).

Counsel follow their correct assertion that the experts on both sides are agreed that there is a wide range within the description of the patent by the erroneous assertion that Dr. Grosvenor in his testimony (R., 72-73) is "comparing the *usual* viscosity of Perkins glue with the *range* of viscosity of Perkins glues which he had observed by varying the length of agitation and heat, etc."

It must be that plaintiff's counsel do not understand Dr. Grosvenor's testimony at this point. If they did, they could never make that erroneous assertion. Dr. Grosvenor's testimony that certain measurements of the actual viscosity of glue showed a drop during the mixing operation from over 250,000 to 60,000 referred, as the context shows, to glues made from raw starch. There are many kinds of raw starch, from the high viscosity cassava and potato starches down to the low viscosity corn starches, and Dr. Grosvenor does not tell us what raw starches showed this great drop in viscosity during the mixing operation. He does proceed, however, to state "The usual viscosity of the Perkins glues as mixed

up in accordance with the description of Perkins" as compared with the viscosity of the "finished glue of the defendant" and what he says is in full confirmation of what Dr. Grossman said—that defendant's final glue is more viscous than the Perkins glue (post, p. 35). Dr. Grosvenor found by actual measurement that at the end of the mixing operation "glues as mixed up in accordance with the description of Perkins" had a viscosity "of say 125 or 126,000; it swings somewhat up and somewhat below that" and that the "finished glue of the defendant in this instance was 156,000." When plaintiff's counsel say, as they do (p. 8) that the starch referred to by Dr. Grosvenor in this testimony as dropping in viscosity from 250,000 to 60,000 during mixing was "certain of Perkins glues," they misrepresent the testimony. The testimony was that it was glue made from some unidentified raw starch.

When they say that Dr. Grosvenor testified that the glue showing a viscosity of 125 to 126,000, swinging somewhat up and somewhat below that was the Perkins commercial product, they misrepresent the testimony. What Dr. Grosvenor said was that it was "glues as mixed up in accordance with the description of Perkins," meaning, of course, the description of the Perkins patent.

At the bottom of page 8 and top of page 9, counsel conclude their argumentative statement of this evidence in words which seem to say that both experts agree that "the viscosity of defendant's glue falls well in the middle of" the "wider range" indicated in the patent—referring back to the range measured by the 9 to 1 boil-up test and the 170 degree hot water test. The fact is that the viscosity of defendant's glue depends directly upon the water-absorptiveness of the starting material, and defendants conclusively proved (Defendants' Reply

Brief, p. 36) and plaintiff's counsel no longer deny (Plaintiff's Brief, p. 159), that the water-absorptiveness of defendant's starch is above that range.

So, proceeding on page 9, plaintiff's counsel quote from page 403 of the record a sentence from the testimony of Mr. Stephan, who, they say, was "comparing defendant's Kane glue here involved with Perkins glue." If the Court will refer to that page of the record it will see that Stephan's statement was made with respect to vegetable glue 'omitting purchases from the Perkins Glue Company," and his statement was made, so far as he could remember, only with respect to the Kane glue. He said, "I tried out another kind, whether it was Kane or International, that I am confused about."* His testimony means nothing in the face of Dr. Grossman's positive testimony that defendant's glue is heavier than the Perkins glue and so much heavier that it cannot be handled by the same machinery (post, p. 35).

Plaintiff's counsel proceed to discuss Dr. Grossman's testimony and attempt to make out that Grossman testified that defendant's base was heavier *before it is cooked up* but is not heavier after it is cooked up. They make this assertion notwithstanding the fact that the very testimony they quote (bottom of p. 9) is that "Our base *cooked up—and put in a spreading machine,* is heavier than the Perkins glue base, proving that there is less degeneration in a raw hard starch than when it has been treated and softened," and then they quote from page 61 only the words "It is heavier for the same

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*In spite of this sentence, plaintiff's counsel say at another place in their reply brief (p. 13) that the glue Stephan testified about included "also the so-called International glue." They seem to have resolved Mr. Stephan's confusion to suit their own purpose.

amount of water added," omitting the immediately preceding words "As to Kane Company's *finished cooked up glue as compared in viscosity with the finished glue of Perkins.*"

It is not by any such expedients as this that plaintiff's counsel can sustain their assertions that "Defendant's glue is not a heavier glue than that of the patent"; that "Defendant's glue is identical with the glue of the patent"; and that "Defendant's base is degenerated" (Plaintiff's Reply Brief, pp. 7-15, inclusive). For the convenience of the Court we print at the end of this brief (post, pp. 27-35) the testimony on the subject just as it stands in the record.

VI.

(a) Plaintiff's counsel say (Reply Brief, pp. 28-30) that our statements with regard to the *Solva case* are misleading, and repeat their assertion that in the *Solva case* there was no evidence that defendant's raw starch there responded to either the 9 to 1 or 170 degree tests.

If this Court will refer to Judge Sanborn's opinion in the *Solva case* (223 Fed., 792, at p. 798), it will find a statement of what defendant's infringement there complained of was. Up to August, 1912, Solva Company used the Perkins alkali degeneration process of the second patent and thereafter made a slight modification in the alkaline converting reagent. As to this processed glue-base, Judge Sanborn said:

> "The Perkins tests were used to determine when the starch had been properly processed";

and plaintiff's counsel in their present reply brief say (p. 28) that it "probably fell within the 9 to 1 boil-up test."

Judge Sanborn, referring to the raw cassava starch used by defendant in the *Solva case,* said:

> "It often happens that cassava glue-base can be used without any processing by the first step, in which case *it is tested* and sent to customers in its original state." (Emphasis ours.)

As we pointed out in our reply brief (pp. 31-32) and in our main brief (p. 71), plaintiff's counsel in their brief in the *Solva case* said:

> "It appears that the defendant Solva Company has shipped some particular and peculiar cassava dry glue-base to their customers, which they did not treat or process at all. * * * it * * * behaved just like the processed goods when tested. * * * Defendants tested it out first in the same way they did the processed goods * * * and it tested the same."

Of defendant's processed glue-base in that suit plaintiff's counsel said in their brief (p. 9):

> "and the degeneration was carried to and stopped at the critical point specified by Perkins."

And they left no doubt as to what that critical point was. On page 11 of their brief they state (see our Reply Brief, p. 33):

> "And Perkins' original specification told just how far to carry the degeneration or preliminary treatment of the starch to get this result. * * * it pointed out the exact stopping point of the degeneration by stating that it should be carried to the

'point where the base if mixed with from two or three parts of water and subjected to heat of 170 degrees F. would result in a syrupy condition instead of a thick, jelly-like mass.' "

It is clear, therefore, that when plaintiff's counsel in the *Solva case* represented to the Court that the raw starch there involved "behaved just like the processed goods when tested. * * * Defendants tested it out first in the same way they did the processed goods and it tested the same," they represented that the raw starch there involved had water-absorptiveness responding to the tests of the patent.

This understanding of the Court in the *Solva case* is important here primarily because the Court below was misled into supposing that the defendant's untreated starch in the *Solva case* was of high viscosity like the Kane base here (see our Reply Brief, pp. 70-71).

(b) Plaintiff's counsel admit (Reply Brief, pp. 29-30) and bottom of p. 14) that in the *Solva case* the raw starches which had been used at Poplar Bluff, and which plaintiff there differentiated to save its patent from invalidity because of the Poplar Bluff prior use, were tested by the 9 to 1 boil-up test. But they say (p. 14):

"defendant does not use any such high viscosity starch";

and (p. 29):

"these were many times more viscous than those which responded to the 9 to 1 boil-up test."

But here we have actual records of physical measurements which cannot be altered or misconstrued by argu-

ment. If the Court will refer to pages 32 and 33 of our reply brief, it will find examples (stated by plaintiff's counsel) of the raw starches excluded from the scope of the patent by plaintiff in the *Solva case.* Lot 63 showed a viscosity of 40 at 16 to 1. Defendant's starch here shows a viscosity of 57 (Grosvenor, R., p. 76) at 20 to 1. At 16 to 1 it would, of course, show a higher viscosity than 57. Defendant's starch here is consequently shown by these recorded tests, both of which were made by plaintiff's expert, to be a starch of *higher* viscosity than the starch excluded in the *Solva case.*

It is absolutely and demonstrably untrue that "defendant does not use any such high viscosity starch" as was included among the raw starches used at Poplar Bluff and excluded by plaintiff from the scope of the patent to have its claims in the *Solva case.*

VII.

The cases cited in the appendix and on pages 3-5 of plaintiff's reply brief as illustrating different ways in which products may be identified are sound enough in so far as we have had time to examine them. They all proceed on the principle that the claim should, if the literal language permits it, be liberally interpreted in the light of the specification to cover neither more nor less than the real invention. There is not in them any support for the idea that the ingredients of a chemical compound, or any one of those ingredients, is sufficiently defined by words descriptive of the final utility of the compound. Manifestly there can be no valid claim for a chemical compound in which one of the ingredients is left without positive identification and is assumed to be any ingredient whatsoever which will, when added to the other identi-

fied ingredients, effect the stated result to be achieved. Just in so far as such attempted definition of one of the ingredients by the functional properties of the final compound extends beyond the range of ingredients that the inventor has found suitable to effect his intended purpose, the claim will unlawfully extend beyond the means invented.

We do not think it is necessary to discuss these lower court cases, referred to by plaintiff's counsel, in any detail, but we point out that the portions of the claims quoted by plaintiff's counsel do not, in most instances, give a correct idea of the matter before the Court in those cases. For example, in the first case cited by plaintiff—*A. B. Dick Co.* vs. *Underwood Typewriter Co.*, 246 Fed., 309—the expression quoted "a stencil blank capable of being stencilled" was used merely as an introductory expression, not as a definition of the invention. The claim there in suit defines the invention as follows: "consisting of a dry but hygroscopic sheet of fibrous material impregnated with a coagulated colloidal substance and a tempering agent, substantially as described." This quotation well illustrates the difference between plaintiff's contentions and ours. The expression, "a stencil blank capable of being stencilized" is, in our view, similar to the Perkins claim as contended for by the plaintiff—" vegetable glue as good as animal glue." If in the *A. B. Dick case* the claim had said "a stencil blank capable of being stencilized" and nothing more, we think the claim would have been invalid as defining nothing more than the object to be attained. Evidently the plaintiff is of the view that such a claim would be valid.

And so likewise with all the other lower Court cases cited on pages 3 to 5 and in the Appendix to plaintiff's reply brief. An examination of them affords no support for plaintiff's contention that the quality of the starch

ingredient of the Perkins glue is sufficiently defined by stating the ability of the final glue to do the work of animal glue.*

VIII.

Plaintiff's only comment on the disclaimer is to attempt to explain away the very damaging statements which were made by plaintiff's counsel in the *Hood-Wright case.* It seems to us that in attempting this the plaintiff merely discloses the weakness of its position and the extent to which it is forced to go in order to hold the present defendant as an infringer of its patent.

It is not our contention that these remarks of counsel are binding upon the plaintiff and that solely because of these remarks defendant escapes infringement. Our position is that regardless of what invention Perkins made and regardless of what invention he might have claimed, the plaintiff cannot now hold the defendant for operating within the field which was specifically disclaimed. We

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*In connection with this part of plaintiff's reply brief (pp. 2-5) we call the Court's attention to the fact that plaintiff's counsel now say (p. 2) "we contend that the product here claimed is new in and of itself and independently of the use to which it is put," and (p. 5) "When the claim characterizes the glue as a wood and fiber glue or as a glue having the properties of animal glue, that is not referring to its use. That is characterizing the glue, not by the use to which it may or may not be put by its physical characteristics. * * *"

It does not seem to us that counsel can reconcile this with the admission in their main brief at page 29 (see our Reply Brief, footnote, p. 20) that "the only way to tell whether a particular starch will make a glue as good as animal glue is to make up the glue and use it on a commercial scale in a furniture veneer gluing factory.

cite plaintiff's counsel's remarks in the *Hood-Wright case* to show that not only the effect of the literal wording of the disclaimer is to free this defendant from any charge of infringement, but that this was the interpretation which plaintiff's counsel themselves put upon the disclaimer. For plaintiff's counsel to now attempt to retract or limit what they said in the *Hood-Wright case* seems to us to be quite on a par with their attempt to retract or limit the disclaimer itself.

When counsel now amend the statement they made to Judge Sessions in the *Hood-Wright case* by substituting (footnote, p. 28) for the words,

> "You would not have our invention under those circumstances. We do not want to cover that; the defendant may do that. Therefore, we disclaimed that,"

the words—

> "You would not have our (claim 13 process) invention under those circumstances. We do not want to cover that (in claim 13); the defendant may do that (so far as claim 13 is concerned). Therefore, we disclaimed that (from claim 13)."

It seems to us they manifest clearly enough the accuracy of Judge Geiger's remarks (Appendix to our Reply Brief, pp. vi and vii), as follows:

> "Surely these disclaimers proceed upon the hypothesis that glue may be made, as in such disclaimed claims directed, even if the starch is not degenerated *as specified in the patent;* and it will not do to argue that merely because a glue so made turns out to be good-as-animal glue, therefore, the *precise degeneration reserved* by the disclaimer *must be assumed* to have entered into the process *in the man-*

ner specified, and therefore into the product. If the result in the Solva Case is not as Judge Sanborn states it; if, notwithstanding the language of the Court, any starch glue, good-as-animal glue, is within the Perkins monopoly,—then the entire patent, as Judge Sanborn considered and upheld it, is now reclaimed, not only from the decree of the appellate court but also from the plaintiff's express disclaimer."

And when we look at Judge Denison's answer to this proposition (R., 658-659), in the light of the fact which we trust is now understood, that defendant's assertion is that the effect of the disclaimer was to limit the patent to glue made from a starting material of "the less than high viscosity indicated by the teachings of the patent to be necessary to produce the result" and not that the effect of the disclaimer was to limit the choice of the patent "to the base which had been degenerated in the manner specified in the patent," then it will be seen that all Judge Denison said about process and product, and all that he said about the effect of the disclaimer, merges into the single question whether "the less than high viscosity indicated by the teachings of the patent to be necessary to produce the result" is to be measured by the tests of the patent as we contend, or by the functional statement of ultimate result "as good as animal glue for veneering," as plaintiff contends and as the lower Court decided.

Respectfully submitted,

March 23, 1928.

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APPENDIX.

The Evidence as to the Character of the Defendant's Glue Base and Final Glue.

Defendant's Base Is a Heavier Base Than That of the Patent.

On this subject, plaintiff's expert, Dr. Grosvenor, testified:

(P. 35:)

"* * * The base was substantially the same as that described in the Perkins patent in suit, and examined under the microscope it showed the form of the granules substantially unchanged when wetted with cold water. The base when heated with water to one hundred and seventy degrees produced a workable heavy fluid similar to the glue, not a stiff unworkable jelly. The base when mixed with two to three parts of water and caustic soda, produced a glue like Perkins' glue, and the base therefore corresponded to most of the characterizations given in the Perkins patent; the nine to one boil-up test given in the patent is specially mentioned in connection with the acid treated or processed cassava, so that that wouldn't be expected to necessarily apply; and it showed a very high figure on that test. The microscopic examination showed that the base consisted practically of cassava with perhaps a trace of potato or corn, not a considerable proportion of all."

(P. 36:)

"* * * The base examined as such before mixture was, as I said, a high viscosity base, it was verging

toward the upper limits of the preferred description in the Perkins patent in suit. It was within that range, but I think in the practice of mixing up in the factory the prolonged stirring subsequent and application of heat subsequent to the addition of caustic brought it even further within that range effectually."

(R., p. 39:)

"The sample of the Kane glue obtained at the Holland Furniture Company plant did not fall within that test [the 9 to 1 boil-up test]. As I explained, one doesn't expect the glue-base to fall within that test unless it is a base which has been acid processed from high viscosity raw cassava."*

As to actual measurements of the viscosity of defendant's base, Dr. Grosvenor testified:

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*That this last assertion is untrue, see our reply brief, pages 34-35, the Grosvenor's subsequent testimony:

(R., p. 77:)

"* * * with the Perkins glue base, we generally boil at 9 to 1."

(R., p. 132:)

"I don't think it was made quite clear—you spoke of this patent No. 1,020,656, and the process of that patent by which the starch was put into the proper form by an ALKALI TREATMENT. Do you mean to infer that that was the process which Perkins Glue Company use? A. Is commercially using today and has used almost continuously since it was discovered."

(R., p. 76:)

"Q. When you took this sample of the defendant's glue-base did you make a like test on that? A. A boil-up?

Q. This boil-up viscosity test on the 20 to 1 solution? A. Yes; 57* was the viscosity of that on that boil-up test."

In plaintiff's patent No. 1,299,809 of April 8, 1919 (R., 632), it is said:

"The following, however, will give a general idea of the relation of the two scales. A degenerated cassava starch having a viscosity of 22-23 at 20 to 1 showed a viscosity of 49-55 at 9 to 1. A relatively raw cassava starch having a viscosity of 36-37 at 20 to 1 showed a viscosity of 110-115 at 9 to 1. A raw cassava starch having a viscosity of 44-47 at 20 to 1 showed a viscosity of about 745 at 9 to 1."

Defendant's expert, Mr. Grossman, testified as to defendant's base:

(R., p. 48:)

"Pure cassava flour, pure in the sense that it has no adulteration or mixture or other starches • • • G. T. A. brand and sometimes G. T. G. which is identical with G. T. A. • • • The only treatment we give it in our plant is a sieving process to remove impurities, such as lint, sticks, sometimes we find a

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*The Court will understand that viscosity of 48 is the upper limit of the range of the Perkins patent on the 9 to 1 boil-up test (Plaintiff's Reply Brief, top of p. 8).

few bolts and other foreign matter * * * it receives no chemical treatment of any sort. It just goes through our sieves and falls into a hopper and is re-bagged. * * * No process of degeneration at all."

(P. 52:)

"* * * The small amount of degeneration which Dr. Grosvenor spoke of in his testimony which goes on in a kettle is proportionately the same for any glue base, the action of caustic soda tends to break down the starch, but the degeneration which does take place is negligible.

The Court asked, if I understand you rightly, the base employed by your concern is not degenerated starch? The witness replied: It is not.

The Court: At any stage?

The Witness: It is not."

(P. 60:)

"* * * As to whether it is true that more or less degeneration occurs in the starch after the caustic has been added in the mixing of the starch and during the heating, during the continued heating and stirring for fifteen minutes to a half hour, no more degeneration than would occur with the Perkins or any other base, in fact, less, because the raw material is harsher than a processed starch. Degeneration will be less marked on a starch of higher viscosity than one which has already been degenerated to some greater extent."

(P. 61:)

"* * * As to whether I can swear positively of my own knowledge that there has been no degeneration

in the cassava starches sold by the Kane Company as base for glue at any stage, that is in Java or elsewhere, or by any means such as natural causes or otherwise, to the best of my knowledge, I will."

(P. 79:)

"The results I have tabulated are as follows: Kane base at the end of the first hour 145 seconds, the Perkins base, 80 seconds.

* * * * * *

Water depending on temperature will be 26 to 30 seconds, the average is 28 seconds at 60 degrees Fahrenheit for the water."

(P. 512:)

"* * * The actual figure therefore is 100 seconds which will be the viscosity of the starch. This is Holland Furniture Company base."

(P. 513:)

"* * * It reads sixty seconds and three-fifths. The viscosity therefore of the Perkins glue base is sixty and three-fifths."

(P. 515:)

"* * * the Kane [base] shows a viscosity of one hundred; the Royal shows a viscosity of 166 1/5; the Perkins shows a viscosity of only 60 3/5. * * * The difference between the Kane and Royal as compared to the Perkins is due to the fact that neither

Kane or Royal are in so degenerated a state as shown by the Perkins patent. What I mean by saying 'degenerated' is the fact that they are not degenerated at all, they are not the results of any chemical treatment whatsoever, and we have found out and we know that the Perkins sample which we have is a so degenerated base by virtue of its chemical treatment."

(R., p. 518:)

"* * * water * * * will run between 26 and 30."

The Report of the Special Master.

(P. 604:)

"The testimony taken before me was elaborate and completely covered the field. I listened to it with interest and have considered it with great care and come to the deliberate conclusion that, except as may be inferred by the conclusion that the Kane glue base must have been degenerated because the ultimate rsult is the Perkins glue, no degeneration whatsoever has been proved independently. All the testimony points to the contrary and especially the test experiment prescribed in the patent and conducted in my presence on the premises of the Grand Rapids Gas Light Company as described in the testimony."

(NOTE.—The testimony as to this test is on the record at pp. 574-575, where Grossman stated at the conclusion of the test:

"I have here a thick jelly-like mass, rubbery in appearance and livery-like liver.")

The Decree of the District Court.

(R., p. 637:)

"Second. That the defendant Holland Furniture Company has not infringed upon the exclusive rights accrued to plaintiff by said reissued Letters Patent No. 13,436 by employing processes and making and using products wherein the starch base used was furnished to defendant by the Kane Manufacturing Company of Chicago and is known herein as the Kane base."

Defendant's Resultant Glue is a Heavier Glue Than That of the Patent.

On this subject plaintiff's expert, Dr. Grosvenor, testified:

(R., p. 35:)

"The base was substantially the same as that described in the Perkins patent in suit.*

It had all the fluidity, penetration, adhesive and cohesive characteristics of the glue of the Perkins patent,* and substantially all those of the animal glue for veneering work."

(P. 38:)

"Q. Is the final glue made by the defendant's the same actual and industrial technical product as the

*See footnote next page.

final glue of the patent in suit?* A. It is."

As to the actual measured viscosity of defendant's glue and the glue of the Perkins patent, Dr. Grosvenor said:

(R., p. 73:)

> "The usual viscosity of the Perkins glues as mixed up in accordance with the description of Perkins is in the vicinity of say 125 or 126,000; it swings somewhat up and somewhat below that; that is purely a question of the practical working of the glue on the veneers. The finished glue of the defendant in this instance was 156,000 * * *."

As to the character of defendant's final glue, defendant's expert, Dr. Grossman, testified:

(P. 51:)

> "* * * the method employed in cooking up our glue which is a more viscous material, must be altered

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*What Dr. Grosvenor meant by "the glue of the Perkins patent" is shown by the following:

(R., p. 45:)

> " * * * What I have always regarded as the critical test given in the patent in suit, the test of whether when made up with between 2 and 3 parts of water the base would make a glue having properties of Perkins glue";

and (R., p. 73):

> "The Court: Then I take it your conclusion is this: if the resultant glue ready for use was satisfactory and sufficient for glueing veneers, the starch at some stage, either prior to its treatment or during its treatment, was degenerated? A. It was, that is my opinion."

from the method employed by the Perkins Glue Company in cooking up their glue. In order to overcome these difficulties we designed different types of glue mixers which have bottom and side scrapers. Our stuff is heavier, and the heavier the glue base from a business standpoint of viscosity, the quicker it drops to the bottom of the kettle, before it is cooked up. We put in bottom scrapers and side scrapers and then made the kettle doubly agitated * * *, because in a Perkins converter, our glue would just swing along on one agitator; in short, to overcome that we had to throw in another set and break it up."

(P. 59:)

"As to whether material which the Kane Company has been shipping can be mixed on a Perkins mixer, well, not satisfactorily, because we always get into trouble, the Perkins kettle is conical at the bottom, and they have no means of scraping the material at the bottom, and when caustic soda is put in and sufficient agitation is not produced at the bottom, why, it balls it up and gums it along."

(Pp. 60-61:)

"* * * I might state that the glue—our glue base cooked up—and put in a spreading machine, is heavier than the Perkins glue base, proving that there is less degeneration in a raw hard starch than one which has been treated and softened."

(P. 61:)

"As to Kane Company's finished, cooked-up glue as compared in viscosity with the finished glue of Perkins, it is heavier for the same amounts of water added."